WHAT IS CLAIMED IS:

1.   A method of automatically identifying a
fiber type in an optically amplified fiber optic
span, said span having connected thereto a transmit
amplifier, and a receive amplifier, said method
comprising the steps of:
        obtaining a spectral power profile near each of
said transmit amplifier and said receive amplifier;
        determining a measured score for said fiber
span based on a spectral loss profile for said fiber
span; and
        comparing said measured score with known
identification scores in a lookup table in order to
facilitate a positive determination of the fiber
type for the fiber span if said measured score
matches a score in the table within a given
tolerance.

2.   A method according to claim 1 wherein the
measured score being outside the given tolerance is
interpreted as identifying the presence of multiple
fiber types within the span.

3.   A method according to claim 1 wherein said
spectral loss profile is calculated by subtracting
the spectral profile of said transmit amplifier from
the spectral profile of said receive amplifier.

4.   A method according to claim 1 further
comprising, before said step of comparing:
        calculating a known identification score for
each of a plurality of fiber types; and
        entering the known identification scores in the
look up table.

5.   A method according to claim 4 wherein said step of calculating a known identification score comprises:

        focusing said spectral loss profile across a pre-defined window of wavelengths;

        scaling said spectral loss profile with respect to a pre-defined value to produce a normalized distribution;

        calculating statistical values based on the normalized distribution; and

        summing weighted values of said statistical values.

6.   A method according to claim 1 further comprising the steps of:

        mapping the fiber types for each span within a fiber link; and

        automatically mapping a network based on the mapping of each link in the network.

7.   A method of automatically identifying a fiber type in an optically amplified fiber optic span, said span having connected thereto a transmit amplifier, and a receive amplifier, said method comprising the steps of:

        obtaining a first spectral profile near said receive amplifier;

        applying a Raman pump laser to said system;

        obtaining a second spectral profile near said receive amplifier after said step of applying the Raman pump laser;

        determining a score for said fiber span based on a Raman gain profile for said fiber span; and

        comparing said score with known identification scores in a lookup table in order to make a positive

determination of the fiber type for the fiber span
if the measured score matches a score in the table
within a given tolerance.

5   8.   A method according to claim 7 wherein the
measured score being outside the given tolerance is
interpreted as identifying the presence of multiple
fiber types within the span.

10   9.   A method according to claim 7 wherein said
Raman gain profile is calculated by subtracting the
first spectral profile near said receive amplifier
from the second spectral profile near said receive
amplifier.

15   10.   A method according to claim 7 further
comprising, before said step of comparing:
        calculating a known identification score for
each of a plurality of fiber types; and
20   entering the known identification scores in the
look up table.

11.   A method according to claim 10 wherein
said step of calculating a known identification
25   score comprises:
        focusing said Raman gain profile across a pre-
defined window of wavelengths;
        scaling said Raman gain profile with respect to
a pre-defined value to produce a normalized
30   distribution;
        calculating statistical values based on the
normalized distribution; and
        summing weighted values of said statistical
values.

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12.   A method according to claim 7 further

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comprising the steps of:

mapping the fiber types for each span within a fiber link; and

automatically mapping a network based on the mapping of each link in the network.

13.   A fiber type identification system for automatically identifying a fiber type in an optically amplifiable fiber optic span comprising:

one or more optical spectrum analyzers for measuring a spectral profile near one or more amplifiers attached to said fiber optic span;

a lookup table of known identification scores for each of a plurality of fiber types; and

means for calculating a score for a span based on said profile measurements; and

means for comparing said score to the known identification scores in the lookup table in conjunction with a given tolerance in order to identify the fiber type of the span.

14.   A system according to claim 13 further comprising a display means for displaying the result of the fiber type identification.

15.   A system according to claim 13 wherein said score is a spectral loss profile.

16.   A system according to claim 13 further comprising:

a Raman pump laser for applying a Raman amplification to said fiber optic span.

17.   A system according to claim 16 wherein said optical spectrum analyzers measure a profile near said one or more amplifiers before and after

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the application of the Raman amplification.

18.   A system according to claim 17 wherein
the score calculated by said processor is a Raman
gain profile that takes into account both sets of
measured profiles.